

MDW ACCIDENT PREVENTION PLAN HANDBOOK

BACK INJURY PREVENTION

Safety Training Goal: Understand the importance of preventing back injuries.

1. Introduction.

a. Next to the common cold, back injuries account for the greatest number of lost workdays. About eight out of ten Americans will experience some kind of back pain. For many of them, the pain is serious and permanent.

b. Back injuries are one of the most frequent types of Federal Employees Compensation Act Program claims throughout MDW. The real tragedy is that most back injuries can be prevented. All too often they happen because people don't know how to lift properly, or they try to lift an object that's too heavy for them.

c. The increased cost of the Federal Employee's Compensation Act Program (FECA) is a serious problem. Compensation costs include expenditures for paying medical expenses and continuation of pay for personnel that have experienced injuries and illnesses on the job. Costs are also incurred for soldiers who have experienced injuries and illnesses on AND off the job.

2. Discussion:

a. Types of Back Injuries. Your back supports your whole body. It is a complex combination of bones, muscles, ligaments, and nerves that work closely with muscles in your stomach. Here are some of the common injuries that can result from putting too much strain on your back:

- (1) Strains and sprains to the back muscles.
- (2) Slipped discs, which are tears or other damage to the vertebrae.
- (3) Muscle spasms caused by stress or tension.
- (4) Hernias (ruptures in the abdominal muscles).

b. Many of these injuries result when the back or stomach muscles are not strong enough to do what you're asking them to do. The danger of back injuries is increased when an individual is out of shape, has poor posture, is overweight, or tries to do too much. Even if you're in good physical shape, back pain and injuries can result from:

- (1) Twisting while carrying an object.
- (2) Lifting awkwardly shaped objects.

MDW ACCIDENT PREVENTION PLAN HANDBOOK

(3) Leaning and stretching to pick up an object.

(4) Tripping or falling while carrying an object.

b. Preventing Back Injuries. There are proper and improper ways to actually lift an object. But the most important part of preventing back injuries happens before you start to lift anything. The following tips can help:

(1) Plan your lift by thinking about what you're going to do and how to do it.

(2) Take your time-avoid abrupt, jerky movements.

(3) Stretch your muscles before starting a job that involves lifting.

(4) Try to find other ways to lift and carry the object, such as mechanical aids, instead of doing it all by yourself.

c. How to lift properly. Here is the proper technique for lifting and putting down most objects:

(1) To pick up an object: stand close to the load, bend your knees, and let your legs do the work instead of your back.

(2) To put an object down: don't twist, but move your feet to change position. Again, let your legs do the work. Place the object on the edge of a surface and slide it back.

d. Non-Standard Lifting. From time to time, you're called upon to lift and carry awkward objects or under nonstandard conditions. Here are some tips for preventing back injuries in these situations:

(1) If lifting from a high place-use a platform instead of a ladder. Get the load as close to you as possible before lifting.

(2) If lifting from an awkward place-get as close to the article being lifted as possible. Remember to use the leg muscles instead of the back.

(3) If lifting drums and cylinders keep the above rules in mind. Also remember that rounded objects can shift suddenly so be extra careful.

e. Get Help. Another important rule for any kind of lifting is to get help rather than trying to do too much alone. Sometimes it's hard to admit that something is too heavy for me," but admitting this is a lot easier than dealing with a serious back injury and what might turn out to be a lifetime of pain.

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f. When to get medical attention. If you do feel back pain while carrying, stop what you're doing, rest, and seek medical attention. Trying to "work through it" can turn a minor injury into a major one.

3. Conclusion.

- a. Your back lets you:
 - (1) Walk.
 - (2) Sit.
 - (3) Stand.
 - (4) Lift.
 - (5) Bend.
 - (6) Work.
 - (7) Play.
 - (8) Sleep.
- b. Your back is the most injury prone part of your body!
- c. Back problems can mean:
 - (1) Pain.
 - (2) Lost time.
 - (3) Expense.
 - (4) Inconvenience.
 - (5) Disability.
- d. PREVENTING back injuries is a lot easier than CORRECTING them.

On-The-Job Injuries

Fact & Fiction

Fact:

Back injuries represent the largest single contributor to injury costs and insurance claims in the manufacturing environment.

Fact:

More than one out of five work-related injuries is a back injury.

Fact:

Work accident injuries to the back occur nearly twice as often as any other injury.

Fact:

Back injuries cause more than 100 million lost workdays annually.

Fact:

Training and educating employees on proper lifting techniques can prevent avoidable back injuries.

Fiction:

Workers have equal risk of back injuries.

Fact:

Personal risk factors such as age, sex, strength and fitness influence a worker's potential for injury.

Fiction:

The workplace environment has no influence on back safety.

Fact:

Several factors, including type of work, noise, temperature and design of the workspace, can influence the safety of a workplace.



BAD BACKS MEAN BIG BUCKS

Did you know that back injuries cost employers millions of dollars every year? Officially called "musculoskeletal injuries," they account for approximately one third of all workplace injuries and 40 - 60 percent of the total injury costs.

**There are
4,600
disabling
back
injuries
each year.**

If you suffer a work-related back injury, workers' compensation and medical costs may represent only a part of the costs your employer must bear. While you are recovering, your employer incurs indirect or "hidden" costs, including the loss of an experienced worker and the cost of training your replacement, down-time, lost

productivity and impaired quality control. These indirect costs may be as much as four times the workers' compensation and medical costs.

Why Should You Care?

Back injuries can be extremely painful, and they hurt everyone. High workers' compensation and medical costs can reduce your company's ability to compete. As a consumer, you pay for other workers' injuries in the form of higher prices for the goods and services you buy. By understanding that worksite injuries are everyone's problem and by working safely, you'll help others as well as yourself.

**Work-related
injuries
occur nearly
twice as
often as any
other type of
injury.**

Workers' Training and Education

Your employer may have training and education programs to teach you basic back anatomy, the importance of good body mechanics, stress management and posture. You may also be trained in proper lifting and carrying techniques. Your company may have programs that train workers at a specific

**33 to 40
percent of
workers'
compensation
payments are
related to
lower back
injuries.**

**Low back
injuries
make up
20 to 25
percent of
all claims.**

jobsite, that teach workers how to use new machines or techniques or that train new workers. Or you may work at a company that emphasizes the need for a regular exercise program to develop a stronger, healthier back. Whatever training program your company has, it is designed to reduce your risk of back injury.

Job-Site Modification

Safe work practices are not the only solution to the problem of back injuries.

Your company may also use "ergonomics" to reduce the risk of back injury. The science of ergonomics deals with the worker, the task, the tools and the environment. Ergonomic changes reduce risk, remove potential dangers and make the task easier or less stressful. By some accounts the proper design of manual tasks can reduce up to one third of industrial back injuries. Some common ergonomic changes include reducing the sizes or weights of objects to be lifted, installing mechanical

lifting aids, and changing the height of a shelf, chair or table.

**Average yearly
costs per back
injury in a year
have been
estimated at
nearly \$4,500 in
wage
compensation and
\$1,600 in medical
costs.**

**Low back
pain costs
\$15 to \$20
billion per
year in lost
earnings and
medical ex-
penses.**

It's Up To You

If your job requires you to lift, lower, push, pull or carry items, poor work habits can result in back pain or injury costing thousands of dollars. To help reduce your risk of work-related back injuries, use safe work practices at all times. Get help from a co-worker or mechanical aid when necessary. Respect your back, and it will stand behind you 100 percent!



WHO GETS BACKACHES?

Back pain is epidemic. It brings us to the doctor more than any other ailment except colds and sore throats—and it affects everyone.

<i>WHO GETS BACKACHES</i>	<i>HOW TO PREVENT THEM</i>
People who sit or bend when they work.	Practice proper body mechanics.
People who lift or carry when they work.	Learn to lift and carry safely.
People who are overweight.	Maintain a healthy weight.
People who are inactive.	Follow a regular exercise program.
People who are under stress.	Try exercise, relaxation or meditation to reduce stress.
People with poor posture.	Keep your three natural curves in balance.
People who play sports.	Warm up properly before sports activities.
People like you.	All of the above.



BASIC BACK-SAVING TIPS



Lift with your legs, not your back. Remember, legs lift, backs break.



Support your lower back when you are seated.



Rest one foot on a footstool when you are standing.



Sleep on your side or your back, not your stomach.



Your shoulders, feet and hips should face forward at all times when you are lifting or carrying.



Keep walkways, stairs, and halls clear. Be on the lookout for tripping or slipping hazards.



Push, don't pull. You have twice as much power and less chance of injury.



Develop a regular exercise program to keep your back flexible and strong.



ON THE JOB

BACK SAVERS

Some workers are more at risk for back injuries than others. But you can beat the odds by learning how to protect your back while you're on the job.

What You Can Do

If your everyday duties put your back at risk, use these back safety tips to make your job easier and safer.



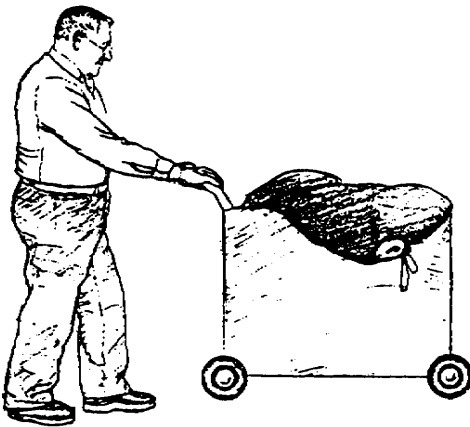
Bending

Kneel down on one knee, bending your knees and hips while holding your back straight. Place one hand on your knee or a desk when bending from a seated position.



Lifting/Carrying

Avoid heavy loads; split large loads into smaller, more manageable loads. Lift an object by standing close to it, then bend your knees to lower yourself into a squatting position while keeping your back upright and moving slowly into a standing position. Carry objects close to your body with your elbows tucked close to the torso.



Pushing

Whenever you can, push instead of pull. This puts less stress on your back and you have twice as much power. Stay close to the cart or machine and avoid reaching. Use both arms to prevent strain.



Reaching

To get objects from a high shelf, use a sturdy stool or ladder. Keep your shoulders, hips and feet facing the object; avoid twisting to reach things to the side. Before lifting, test the weight of the object by tipping one corner.

Exercise For Strength And Flexibility

A regular program of exercise will strengthen key muscle groups and increase your flexibility. A strong, flexible back will not only make you feel better, but also reduce your risk of injury.



Lifting Heavy Objects

The basic rule of thumb when lifting heavy objects is to keep your back straight while using your leg muscles to support most of the weight.

If a load weighs more than 25 pounds, follow these steps for lifting:

1. Position your feet properly. One foot goes next to the load and one goes behind it.
2. Squat down, keeping your head erect and your back straight.
3. Grip the load using your full palms. Fingers alone are too weak.
4. Draw the load close to your body. Keep your elbows near you. Center your body weight over your feet, then start lifting with a thrust of your legs.
5. Carry the object close to your body with elbows tucked in.
6. If you must turn, don't twist your body. Point your feet in the direction you're turning.
7. Whenever possible, push—don't pull—objects.
8. Stay close to the object being pushed and keep your back as upright as possible.
9. Use a sturdy ladder to reach high objects. Keep your shoulders, hips and feet facing the object. Test the weight of the object by lifting one corner.
10. Before moving a large object, make sure the route is clear and you can see where you're going.



If You Get Hurt

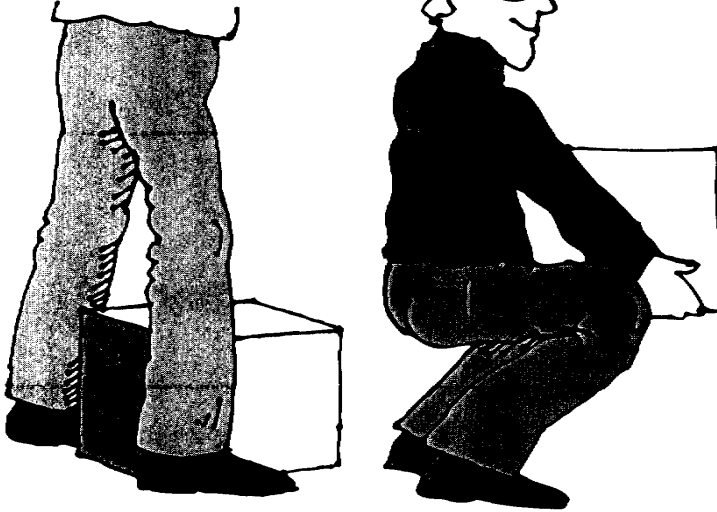
If you feel that frightening twinge in your back, don't panic. Most back injuries involve a sprain or strain, and the damage is temporary. Here's what you can do to take care of yourself:

- ✓ ***Give your injury time to heal, but don't overrest or you'll get out of condition. If pain persists, see your doctor.***
- ✓ ***Go back to work, but avoid lifting until you're ready to resume your full workload.***
- ✓ ***Arrange a modified work program with your supervisor so that everyone knows you're aiming toward a goal of a full workload again. Then work up from lighter to heavier loads.***
- ✓ ***Get into a physical conditioning program to make sure you don't hurt yourself again.***

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Get a Grip!

**To lift and carry safely,
use your head and
save your back.**



**To pick it up...
Stand close
to the load.**

Bend your
knees—not
your back!

Let your legs
push your
body up
slowly and
smoothly.

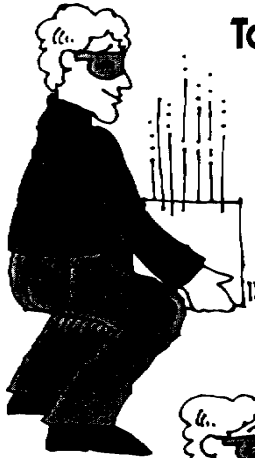


To put it down...

Don't twist your body.
Twisting is a major cause of
injury.

Lower the load bending your
knees and letting your legs,
not your back, do the work.

Place the load on the edge
of a surface, then slide
it back.



**A two-person lift
works best if...**

● **Both** people
are about the
same height.

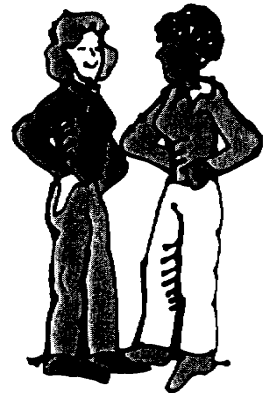
● **One** person
is in charge of
saying when to move where.

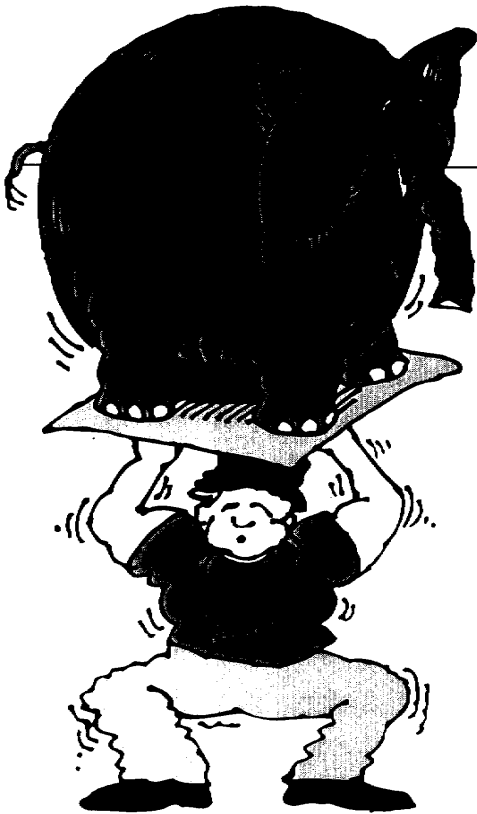
● **You** lift and raise at
the same time.

● **You** keep the load at
the same level while
carrying it.

● **You** move smoothly together.

● **You** unload at the same
time.





For Those Awkward Moments . . .

Here are a few more lifting techniques.

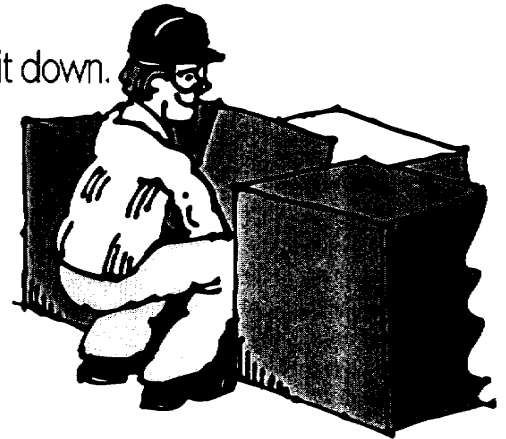
Try to avoid lifting or lowering from a high place, but if you must do it...

- **Stand** on a platform instead of a ladder.
- **Lift** the load in smaller pieces if possible.
- **Push** up on the load to see how heavy and stable it is.
- **Slide** the load as close to yourself as possible before lifting.
- **Grip** firmly and slide it down.
- **Get** help when you need it to avoid injury.



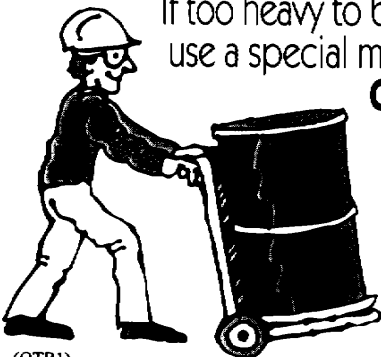
Lifting from hard-to-get-at places...

- **Get** as close to the load as possible.
- **Keep** back straight, stomach muscles tight.
- **Push** buttocks out behind you.
- **Bend** your knees.
- **Use** leg, stomach, and buttock muscles to lift—not your back.



Drums, barrels, and cylinders present special problems.

If too heavy to be comfortably lifted, get help or use a special mechanical device.



Caution: these loads can shift suddenly.

Awkward Objects...

- **Bend** your knees with feet spread.
- **Grip** the top outside and bottom inside corners.
- **Use** your legs to lift, keeping back straight.



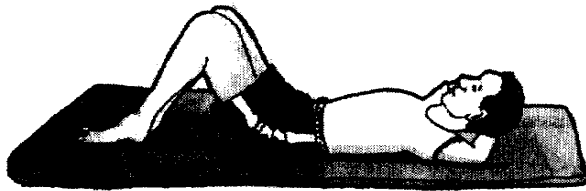
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Four Exercises to Strengthen Your Back

No matter what your job is, you use your back every day. A back injury can result in pain, disability and even loss of income. Together, with proper lifting techniques, back exercises are one of the most important things you can do to strengthen your back and help protect yourself from accidental injury. The following exercises, when done on a daily basis, can help keep your back in good condition.

PELVIC TILT

Lie on your back with knees bent and feet flat on the floor. Slowly tighten your stomach and buttocks as you press your lower back onto the floor. Hold for 10 seconds and then release. Repeat the sequence five to 10 times.



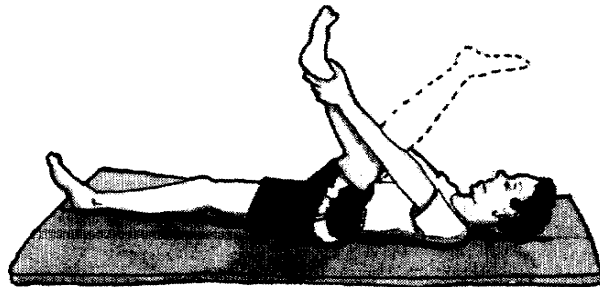
BENT KNEE SIT-UPS

Lie on your back with knees bent and feet and lower back on the floor. Place your arms as shown and slowly raise your shoulders, using your stomach muscles. (Don't use your neck or arms to lift your upper body.) Hold for 10 seconds. Relax. Repeat five to 10 times.



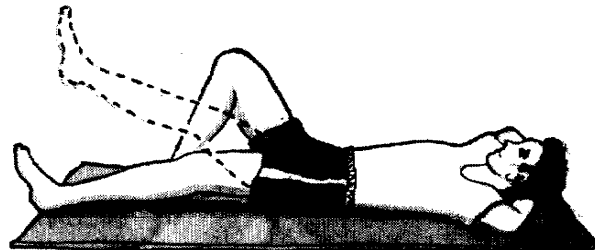
HAMSTRING STRETCH

Lie on your back with one leg straight in front of you and the other bent. Hold on to the ankle of your bent leg and slowly try to straighten your leg. (Keep your lower back on the floor.) Hold for 10 seconds. Relax. Repeat five to 10 times, then switch sides.



LEG LIFT

Lie on your back with one leg straight in front of you and the other bent. Slowly raise your straightened leg as high as you can. Hold for 10 seconds. Slowly lower your leg to the floor. Relax. Repeat five to 10 times, then switch sides.

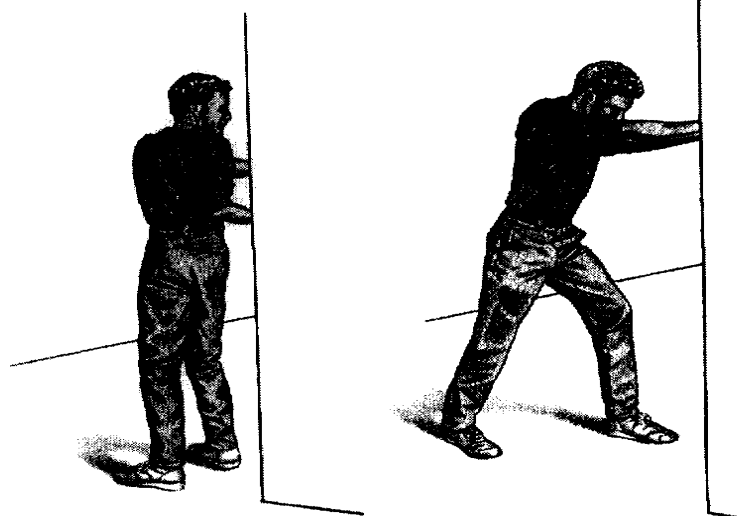


Four Easy Back Warm-Ups

Most back injuries occur during the first few hours of work, when muscles are cold and tight. A few minutes of back warm-ups and stretches before you start a job can help prevent injuries that come from sudden jerking and twisting. Here are some simple warm-ups you can do at work:

TWO WAYS TO STAND AND STRETCH

1. Stand with your back 1 or 2 feet away from a wall. Keeping your knees slightly bent, point your feet straight ahead, shoulder-width apart. Slowly turn your upper body to touch the wall at shoulder height. Find a position that's comfortable, not painful. Hold the stretch for 10 to 20 seconds at first. Increase your time when you're able. Reverse the direction.



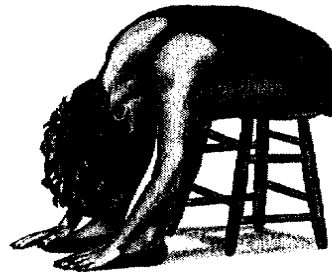
2. Place both hands about shoulder-width apart on a fence or wall. Align your hips over your feet. Bend your knees slightly. Ease your head down between your raised arms. Hold this stretch for 30 seconds. Vary your hand placement to stretch other areas of the spine. To work more of your upper body, try the same stretch by moving one leg behind the other.

TWO WAYS TO SIT AND STRETCH

1. Get in a comfortable, sitting position. Lace your fingers behind your head. Pull your elbows back so they align with your upper body. Tense your shoulders to get a good stretch through your upper back and shoulder blades. Hold this posture for 8 to 10 seconds. Relax and repeat a few times.



2. Exhale, slowly lean forward, drop your head toward your knees and let your hands drop at your ankles. Inhale, unwind, and slowly bring your head up. Exhale and stretch your arms toward the ceiling. Do this five times.



*What you can do
to protect your*

BACK

AT HOME

Normal daily activities—grocery shopping, laundry, cooking, cleaning, relaxing and even sleeping—may be contributing to your nagging backaches. But you can beat your backache with these simple techniques.

In The Kitchen

When you are working in the kitchen, think about your back. Practice good posture; stand with your head high, your chin tucked in and the three natural curves of your spine in balance. Your kitchen counters or workspace should be at a comfortable height so you aren't stooping or slouching to do your work. Be especially conscious of your posture while you're doing dishes at the sink.

If you are standing for a prolonged period, use a footstool to raise one foot off the floor to reduce stress on your lower back. (You can also open a cabinet door and place your foot on the bottom shelf.) Keep your pelvis and your shoulders facing forward while you work. Avoid twisting your torso to put dishes in the dishwasher.

Lifting And Carrying

Be careful when you need items on high or low shelves. Avoid reaching above your head—especially if the object is heavy. The stepstool or ladder should be tall enough that your shoulders are as high as the shelf. When items are on lower shelves, bend at the knees, grasp the object with both hands, and lift

it slowly and carefully. Never bend from or twist at the waist while lifting or carrying an object.

Distribute the weight of groceries by using shopping bags with handles instead of balancing bags on your hips. A shopping cart is an ideal solution—and handy for carrying laundry, too. Remember to push it in front of you—like a stroller—instead of pulling it behind you.

When You're Cleaning

The repetitive action of vacuuming is frequently a cause of back pain. If you have to vacuum, do it carefully. Walk behind the vacuum instead of leaning forward or reaching out. Adopt a wider stance to get under tables and other furniture. Be careful when dusting, too. Bend at the knees and avoid moving heavy objects without help.

Time To Relax


Sinking into your favorite easy chair to watch television or propping up your bed pillows to read a good book may not be the best way to take the stress off your spine. Before you get too comfortable, make sure you are practicing good body mechanics. Your television should be at or slightly above eye level, and you should be facing the



set directly. When you read in bed, prop up your back, shoulders, neck and head so you're sitting up straight, and bend your knees to alleviate the stress on your lower back. No matter where you're reading, use table or floor lamps instead of overhead lamps to avoid eyestrain.

For sleeping in comfort, choose a firm mattress or use a bedboard. Sleep on your side or on your back with a small pillow tucked under your knees; avoid sleeping on your stomach.

It's Up To You

Make smart choices in your home today so you can enjoy a healthy back tomorrow. 

*What you can do
to protect your*

BACK

IN THE YARD AND GARDEN

Weekend chores around the yard and garden often require stooping, reaching, lifting and pulling. Because your back is not accustomed to this kind of workout and you may not be using good body mechanics, you may suffer from aches and pains on Monday morning. These morning-after backaches can be avoided if you observe some basic back safety tips.

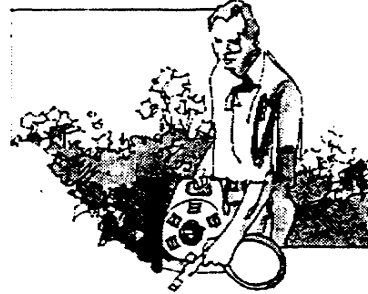
How Your Back Works

Your spine is the central support of your entire skeletal system. It is designed for strength to support your body weight, and flexibility to allow movement. A healthy spine is S-shaped with three natural curves. When these curves are in balance, your body weight is evenly distributed. To maintain this alignment, you need to have strong muscles in your back, legs and abdomen.

Know Your Limits

Evaluate the job and decide whether you'll need any help. If heavy objects must be moved, call for help. **Team lifting is easier and safer.** If your grass seed or fertilizer is in a 50-pound bag, use a wagon or wheelbarrow to take it to the yard. If you can't reach the tools that you need, use a sturdy ladder—and make sure you can lift the object comfortably. Try picking up a corner of the object to test its weight.

Use a hose reel to store and transport the hose with ease.



Tools Of The Trade

Choose the right tool for the job and use it properly. Hoes, shovels, rakes and other large implements should be lightweight and have long handles. Avoid stooping, twisting or reaching. Keep your feet, hips and shoulders facing forward. Stand up straight and don't reach too far.

Garden hoses can be difficult to lift and carry. Use a hose reel to store and transport the hose with ease.

When shoveling, avoid having your hands too close together. You'll gain strength and leverage if they are further apart on the handle. Remember to lift with your knees, not with your back.

Avoid stooping or kneeling for extended periods. For planting and weeding chores, sit on a small stool or low chair.

Lifting, Carrying And Pushing

Avoid heavy loads; split large loads

into smaller, more manageable loads whenever possible. Lift objects by standing close to the object, then bend your knees to lower yourself into a squatting position while keeping your back upright and moving slowly into a standing position. Carry objects close to your body with your elbows tucked close to the torso.

Whenever possible, push objects instead of pulling them—you'll have twice as much power. Keep your body close to your lawnmower, seeder or other equipment and use both arms for maximum strength and minimum strain.

Let Your Healthy Garden Grow

Don't let your garden put a cramp in your back. Learn how to maintain your three natural curves while doing yard work. Use the right tools for the job and enjoy the fruits of your labor.

